What We Claim Is:

1. A melt phase process for making a polyester polymer melt phase product containing at least 100 ppm antimony based on the weight of the product comprising adding an antimony containing catalyst to the melt phase; polycondensing a melt containing said catalyst in a polycondensation zone; and before the It.V. of the melt reaches 0.45 dL/g, continuously polycondensing the melt in the polycondensation zone at a temperature within a range of 265°C to 305°C or at sub-atmospheric pressure or a combination thereof, in each case until the It.V. of the melt reaches at least 0.75 dL/g; wherein the polyester polymer melt phase product has a b* color of -5 to +5.

2. The process of claim 1, wherein said polyester polymer melt phase product comprises :

(a) a carboxylic acid component comprising at least 60 mole% of the residues of terephthalic acid, derivates of terephthalic acid, naphthalene-2,6-dicarboxylic acid, derivatives of naphthalene-2,6-dicarboxylic acid, or mixtures thereof, and

(b) a hydroxyl component comprising at least 60 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.

3. The process of claim 2, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 60 mole% of the residues of terephthalic acid or derivates of terephthalic acid, based on 100 mole percent of carboxylic acid component residues in the product.

4. The process of claim 3, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 92 mole% of the residues of terephthalic acid or derivates of terephthalic acid, and

(b) a hydroxyl component comprising at least 92 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.

5. The process of claim 1, wherein the polycondensation reaction in the polycondensation zone is conducted in the absence of active catalysts containing titanium.

6. The process of claim 5, wherein the melt phase process is conducted in the absence of added catalyst compounds containing titanium.

7. The process of claim 6, wherein the melt phase product contains 180 ppm to 500 ppm antimony.

8. The process of claim 1, wherein said polycondensation reaction is conducted for less than 100 minutes in a finishing zone.

9. The process of claim 8, wherein said polycondensation reaction is conducted for 80 minutes or less in a finishing zone.

10. The process of claim 1, comprising adding a phosphorus containing compound.

11. The process of claim 10, wherein the phosphorous containing compound is added at a molar ratio of P:Sb of at least 0.025:1.

12. The process of claim 1, comprising adding bluing toners to the melt phase.

13. The process of claim 1, wherein said product has an L* of at least 70.

14. The process of claim 13, wherein the L* color of the melt phase product is at least 74, and the b* color is between -5 and +4.

15. The process of claim 1, wherein said polycondensation reaction in the polycondensation zone is conducted at a temperature of 280°C or more.

16. The process of claim 15, wherein the product has an L* of at least 76 and the b* color is between -5 and +4.

17. A polyester polymer composition comprising a melt phase product made in the melt phase to an It.V. of at least 0.70 dL/g, a bluing toner or residue thereof and/or a red toner or residue thereof, and a reheat additive, wherein the

composition has a b* color between -5 to +5 and a L* brightness value of 70 or more.

18. The composition of claim 17, wherein the L* is at least 74.

19. The composition of claim 17, wherein the b* of the is +4 or less.

20. The composition of claim 17, wherein the reheat additive is a black particle.

21. A process for making a polyester polymer melt phase product comprising:

a) esterifying or transesterifying a diol and a dicarboxylic acid component comprising dicarboxylic acids, dicarboxylic acid derivatives, and mixtures thereof to produce an oligomeric mixture;

b) polycondensing the oligomeric mixture in a polycondensation zone to produce a polyester polymer melt having an It.V. of at least 0.75 dL/g; and

c) before the It.V. of the polyester polymer melt reaches 0.45 dL/g, adding an antimony containing catalyst to the oligomeric mixture or the polymer melt or both; and

d) optionally adding an antimony catalyst stabilizer to the melt;

wherein the polyester polymer melt phase product has a b* color of -5 to +5.

22. The process of claim 21, wherein the polyester polymer melt phase product has an L* of at least 70.

23. The process of claim 21, comprising conducting said polycondensation reaction in the polycondensation zone at a temperature ranging from 270°C to 300°C throughout the polycondensation reaction commencing no later than when the It.V. of the melt reaches 0.45 dL/gand continuing at least until the It.V. of the melt reaches 0.75 dL/g.

24. The process of claim 21, wherein the reaction time to reach an It.V. of about 0.70 dL/g commencing from an It.V. in the melt of about 0.3 dL/g is 100 minutes or less.

25. The process of claim 21, comprising adding an antimony catalyst stabilizer to the melt.

26. The process of claim 25, comprising adding a phosphorous containing compound as the catalyst stabilizer at a molar ratio of P:Sb of at least 0.025:1.

27. The process of claim 21, further adding to the melt a compound which reduces antimony to a zero oxidation state.

28. The process of claim 21, comprising adding a bluing toner.

29. The process of claim 21, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 92 mole% of the residues of terephthalic acid or derivates of terephthalic acid, and

(b) a hydroxyl component comprising at least 92 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.

30. A process for making a polyester polymer melt phase product containing an organic bluing toner comprising adding at least one catalyst compound comprising an antimony containing catalyst to a melt and polymerizing the melt in the presence of said antimony containing catalyst to produce a melt phase polyester polymer having an It.V. of at least 0.75 dL/g, a b* color of -5 to +5, and an L* brightness of at least 70.

31. The process of claim 30, wherein the product further comprises a reheat additive.

32. The process of claim 31, wherein the reheat additive is in combination with antimony reduced to the zero oxidation state in-situ in the melt.

33. The process of claim 30, wherein the product contains more than 4 ppm of a reheat additive.

34. The process of claim 30, wherein the amount of bluing agent added is 4 ppm or more.

35. The process of claim 30, wherein the reaction time from an It.V. of about 0.45 to about 0.7 is about 100 minutes or less.

36. The process of claim 30, wherein the polycondensation reaction time in a finishing zone is about 100 minutes or less.

37. A polyester polymer composition containing antimony residues and substantially free of titanium residues comprising a polyester polymer having a b* color of -5 to +5, and L* of at least 70 CIELAB units, and an It.V. of at least 0.75 dL/g obtained without subjecting the polymer to an increase in its molecular weight through solid state polymerization.

38. The composition of claim 37, wherein the composition further comprises at least 4 ppm of a reheat additive.

39. The composition of claim 37, further comprising a bluing toner.

40. A process for making a polyester polymer comprising polycondensing a melt in the presence of an antimony-containing catalyst to produce a melt phase product, wherein the reaction time of the melt between an It.V. of 0.45 dL/g to and It.V. ranging from 0.70 dL/g to 0.90 dL/g is 100 minutes or less.

41. The process of claim 40, wherein a pressure applied between said range is about 2 mm Hg or less.

42. The process of claim 40, wherein the melt phase product produced by said process has a b* within a range of -5 to +5.

43. The process of claim 40, wherein the polyester polymer has an It.V. of at least 0.75 dL/g.

44. The process of claim 40, wherein the reaction time of the melt between an It.V. of about 0.3 dL/g and an It.V. in the range of 0.70 dL/g to 0.90 dL/g is 100 minutes or less.

45. The process of claim 40, wherein the time is 80 minutes or less.

46. A polyester polymer melt phase product having a degree of crystallinity of at least 25% and an It.V. of at least 0.70 dL/g without solid state polymerizing the polymer, said product comprising antimony residues and having a b* color of -5 to +5 and an L* of at least 70.

47. The product of claim 46, wherein the polymer is substantially free of titanium residues.

48. The product of claim 46, wherein the L* is at least 74.

49. The product of claim 46, wherein the degree of crystallinity is at least 30%.

50. The product of claim 46, wherein the It.V. of the melt phase product is at least 0.75 dL/g.

51. A melt phase process for making a polyester polymer melt phase product comprising adding an antimony containing catalyst to the melt phase, polycondensing a melt containing said catalyst in the melt phase until the It.V. of the melt reaches at least 0.75 dL/g.

52. The process of claim 51, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 60 mole% of the residues of terephthalic acid or derivates of terephthalic acid, based on 100 mole percent of carboxylic acid component residues in the product.

53. The process of claim 51, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 92 mole% of the residues of terephthalic acid or derivates of terephthalic acid, and

(b) a hydroxyl component comprising at least 92 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.

54. The process of claim 51, wherein the polycondensation reaction in the polycondensation zone is conducted in the absence of active catalysts containing titanium.

55. The process of claim 51, wherein the melt phase process is conducted in the absence of added catalyst compounds containing titanium.

56. The process of claim 55, wherein the melt phase product contains 180 ppm to 500 ppm antimony.

57. The process of claim 51, wherein said polycondensation reaction is conducted for less than 100 minutes in a finishing zone.

58. The process of claim 57, wherein said polycondensation reaction is conducted for 80 minutes or less in a finishing zone.

59. The process of claim 51, comprising adding a phosphorus containing compound.

60. The process of claim 59, wherein the phosphorous containing compound is added at a molar ratio of P:Sb of at least 0.025:1.

61. The process of claim 51, comprising adding bluing toners to the melt phase.

62. The process of claim 51, wherein said product has an L* of at least 70.

63. The process of claim 62, wherein the L* color of the melt phase product is at least 74, and the b* color is between -5 and +4.

64. The process of claim 51, wherein said polycondensation reaction in the polycondensation zone is conducted at a temperature of 280°C or more.

65. The process of claim 64, wherein the product has an L* of at least 76 and the b* color is between -5 and +4.

66. Polyester polymer melt phase pellets having an It.V. of at least 0.75 dL/g obtained without solid state polymerization and containing antimony residues.

67. The pellets of claim 66, wherein the L* is at least 74.

68. The pellets of claim 66, wherein the b* of the pellets ranges from -5 to +5.

69. The pellets of claim 66, wherein pellets contain a black particle reheat additive.

70. The pellets of claim 66, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 60 mole% of the residues of terephthalic acid or derivates of terephthalic acid, based on 100 mole percent of carboxylic acid component residues in the product.

71. The pellets of claim 66, wherein the polyester polymer melt phase product comprises:

(a) a carboxylic acid component comprising at least 92 mole% of the residues of terephthalic acid or derivates of terephthalic acid, and

(b) a hydroxyl component comprising at least 92 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.

72. A process comprising feeding to an extruder a polyester polymer composition comprising a melt phase product containing antimony residues and having an It.V. of at least 0.70 dL/g obtained without increasing the molecular weight of the melt phase product by solid state polymerization, melting the polyester polymer composition to produce a molten polyester polymer, extruding the molten polyester polymer composition through a die to form shaped articles.

73. A process for making polyester polymer articles comprising:

e) drying pellets comprising melt phase products having a degree of crystallinity of at least 25% and an It.V. of at least 0.7 dL/g and antimony containing residues in a drying zone at a temperature of at least 140°C;

f) introducing the pellets into an extrusion zone and forming a molten polyester polymer composition; and

g) forming an article comprising a sheet, strand, fiber, or a molded part directly or indirectly from the extruded molten polyester polymer;

said article having a b* ranging from -5 to +5 and an L* of at least 70.

74. The process of claim 73, wherein the pellets have not been subjected to a solid state polymerization step for increasing their molecular weight.

75. The process of claim 73, wherein the pellets are substantially free of titanium residues.

76. The process of claim 73, wherein the melt phase products comprise

(a) a carboxylic acid component comprising at least 60 mole% of the residues of terephthalic acid or derivates of terephthalic acid, based on 100 mole percent of carboxylic acid component residues in the product.

77. The process of claim 73, wherein the polyester polymer melt phase product comprise:

(a) a carboxylic acid component comprising at least 92 mole% of the residues of terephthalic acid or derivates of terephthalic acid, and

(b) a hydroxyl component comprising at least 92 mole% of the residues of ethylene glycol,

based on 100 mole percent of carboxylic acid component residues and 100 mole percent of hydroxyl component residues in the polyester polymer melt phase product.